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INTERACTION OF SOCIAL INFLUENCES AND TASK EXPERIENCE ON GOALS, --ETC(U)  
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that observation of the model's achievement level had a significant effect on the goals and performance of subjects without prior experience but had less influence on the goals and performance of subjects who were familiar with the task before being exposed to the model. However, regardless of task familiarity, subjects in all conditions used the model as a standard for evaluating their own performance. The results are discussed in terms of social factors which influence the goals individuals personally set when approaching tasks and the way organizational members seek to reduce uncertainty created by new task environments.

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Interaction of Social Influences and Task  
Experience on Goals, Performance and  
Performance Satisfaction

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Abstract

The effects of awareness of a model's task achievement on observers' task goals, performance and performance satisfaction were studied in a laboratory setting. One hundred and seventy four subjects were exposed to either a high or low performing model in the context of viewing a task "training film." Approximately half of the subjects were allowed to practice the task before observing the film. All subjects then worked on the task and their goals, performance and performance satisfaction were assessed. Results showed that observation of the model's achievement level had a significant effect on the goals and performance of subjects without prior experience but had less influence on the goals and performance of subjects who were familiar with the task before being exposed to the model. However, regardless of task familiarity, subjects in all conditions used the model as a standard for evaluating their own performance. The results are discussed in terms of social factors which influence the goals individuals personally set when approaching tasks and the way organizational members seek to reduce uncertainty created by new task environments.

## The Interaction of Social Influences and Task Experience on Goals, Performance and Performance Satisfaction

Since the late 1960's there has been a renewed interest in the effects of task goals on performance and satisfaction. This interest can be traced to the empirical and theoretical work of Locke and his associates and the recognition by organizational researchers of the practical implications of Locke's work. In a series of papers (Locke, 1968; Locke, 1970; Locke, Cartledge and Knerr, 1970) Locke presented what he described as "the foundations" of a theory of task performance and satisfaction. Central to the theory are the notions that task goals are the most immediate determinants of performance and that satisfaction with performance is a function of the discrepancy between performance and performance standards. In a program of laboratory research Locke found consistent support for the important influences of goals on performance (Locke, 1968; Locke et al. 1970). He repeatedly found that performance was positively related to goal difficulty and specificity and performance satisfaction was a function of the discrepancy between goals and achievement.

In his 1968 paper Locke stated that he was not attempting "to specify the ultimate roots or causes of the particular goals or intentions an individual develops on a task" (Locke, 1968 p 159). Since the research to that point focused only on the relationship between goals and intentions, once established, and subsequent behavior, Locke referred to his work as presenting only the foundations of a theory of task performance.

Although Locke's original work has stimulated a great deal of research, the major thrust of this research has focused on goal setting as a motivational technique useful in organizations for increasing productivity. In general, this field work has supported Locke's laboratory findings of the effects of task goals on performance (Latham and Yukl, 1975). Research on goal setting as an intervention technique is of obvious practical importance. However, it is clear that individuals develop their own performance goals and intentions in the absence of formal goal setting procedures and that these goals are as important to the regulation of task performance as are goals which are externally assigned or determined by formal mechanisms. Since Locke presented his theory almost no attention has been paid to the natural processes of goal setting, the way individuals working on tasks come to set, for themselves, specific task goals. The ubiquity of these goals, coupled with their influence on performance and satisfaction, suggest the need for extending Locke's "foundations of a theory of task performance" with more research on the factors which affect the levels of these self set goals.

Some things are known about the way individuals set their goals. Of particular relevance is the classic work on level of aspiration (Lewin, Dembo, Festinger and Sears 1944; Zander, 1971). The most consistent findings of this research are that goals are influenced by prior performance (see also Yukl and Latham, 1978), are affected by success (upward adjustment) and failure (downward adjustment) and that the effects of success and failure generalize across tasks as a function of task similarity. In addition, aspiration levels have been shown to be responsive to normative information about the average performance levels of various reference groups although this effect is not always found

(Koussak and Peterson, 1969). Lewin believed that aspiration levels were chosen as a function of the probabilities and incentive values of success and failure and more recently Dachler and Mobley (1973) have shown that similar VIE constructs correlate with stated performance goals. Additionally, Locke et al. (1970) showed that goal choices correlated with subjects anticipated satisfaction with reaching the goal.

In spite of the knowledge gained from classic aspiration research and recent attempts to tie together goal setting and VIE theory, it is clear that our understanding of factors influencing goal choice is nowhere near the level one might expect given the relationship between goals and task performance. This should be a particular concern of organizational researchers, since, in spite of the plethora of motivational techniques currently in use, so much of any worker's motivated behavior is ultimately self controlled.

Particularly relevant to the setting of personal performance goals and standards, but inadequately studied, is the way goals are influenced by the observation of the achievements of other workers. The mounting body of evidence on the way models influence other forms of work related behaviors and attitudes (Latham and Saari, 1979; Weiss, 1977, 1978; White and Mitchell, 1979) suggests that observational processes, may be relevant to the way individuals develop personal standards and goals. Although neither he nor his associates have conducted research on this issue, Locke (1968) has alluded to the effects of others' achievements on the levels of goals set by observers.

Two lines of inquiry do suggest the relevance of social influences on this process without actually demonstrating that models influence goals or performance. First, as mentioned earlier, normative reference group

information has sometimes, although not always, been shown to affect individual aspiration levels. However, this research has not focused on the effects of the actual observation of another individual's performance, a much more likely occurrence in organizations than encountering average performance levels. Second, research by Bandura and his associates (Bandura, 1976) has shown that children will reward themselves on tasks (with candy, toys, etc.) for achievement levels based upon the self-reinforcement patterns they observe in adult models. Bandura equates these self reinforcement levels with task goals. However, in these studies only self reinforcement levels are assessed. Model effects on observer intentions and actual observer performance levels are not systematically measured.

These results are suggestive but not conclusive. Yet Bandura's research, the research on normative effects on aspiration levels and research on modeling influences on other organizationally relevant behaviors, indicates that the study of social influences, particularly observational processes, on goal setting behavior may be productive. It seems likely that under conditions where objective indices of success and failure are absent the performance achievements of other workers serving as role models will influence the goals and task performance of observers. The first purpose of this study was to examine, in a laboratory setting, these modeling influences on goal setting.

It also seems likely that the influence of models on observers' goals and performance will vary across situations. Research has shown that individuals will search for information provided by others under conditions of task uncertainty (Crawford, 1974). Marlatt (1971) has shown that the influence of models is more pronounced on unstructured

than structured tasks. Similarly, Weiss (1977, 1978) has shown that low self esteem workers, being more uncertain about appropriate role behaviors, are more likely to model co-workers. It seems that individuals generally turn to models under conditions of uncertainty, when the situation or their own personal experiences fail to provide appropriate guides for their behavior. Although no research has examined the effects of prior task experience on modeling, it seems reasonable to suggest that when individuals can look to their own experiences as sources of relevant information, the importance of models will decrease. In this regard, while discussing the substantial role that models play in the establishment of self-reinforcement standards, Bandura additionally states that individuals also use their previous behaviors as the reference against which to judge their performance. This is likely to be true in the setting of performance goals as well. That is, observational influences on performance goals are likely to be greatest under conditions of uncertainty, on new tasks and in the absence of adequate personal task experience. Under conditions of more task experience the effects of models are likely to be less pronounced. A second purpose of this study was therefore, to examine the interactive effect of model performance and task experience on goal setting behavior. Specifically, based upon the reasoning presented above, the following hypotheses were tested:

#### Hypothesis 1a

Individuals who observe a high performing model will themselves set higher performance goals than individuals who observe a low performance model.

#### Hypothesis 1b

The effects of the model's performance on observers' goals will be stronger among subjects without task experience prior to being exposed to

the model than among subjects with task experience.

Obviously model influences on goals without accompanying effects on performance would be less than meaningful. However, Locke's research clearly shows that performance is linearly related to goal difficulty. As a result, it was expected that observational effects would also extend to performance differences between subjects viewing high and low performing models.

#### Hypothesis 2a

Individuals who observe a high performing model will themselves perform higher on the same task than will individuals who observe a low performing model.

#### Hypothesis 2b

The effects of the model's performance on observers' performances will be stronger among subjects without task experience prior to being exposed to the model than among subjects with task experience.

Finally, observational effects on performance satisfaction were also expected. As stated earlier Locke's research has generally shown performance satisfaction to be a function of the discrepancy between performance and performance standards (Locke et al. 1970). Reasoning in a similar manner to Locke, Bandura (1976) has also argued that self-reinforcement is conditional upon matching self presented standards of behavior. It then becomes logical to argue that where individuals are using the observed performance of others as a performance standard, performance satisfaction (positive self-reinforcement in Bandura's framework) will be a function of the discrepancy between self and model's performance. Further, for the same reasons suggested earlier, this relationship should be weaker where previous task experience allows for internal standard of performance.

### Hypothesis 3a

Performance satisfaction will be negatively related to the discrepancy between subjects and model's task performance.

### Hypothesis 3b

This relationship will be stronger among subjects without task experience than among subjects with task experience.

## Method

### Overview

Subjects were told they were taking part in a study of training methods. All subjects were first given written instructions for a card sorting task, and at that time, approximately half of the subjects were allowed to work on the task. All subjects then viewed a "training film" which showed a male student working on the task while the experimenter described appropriate work methods. Approximately half of the subjects saw a film in which the student worker (model) achieved a high level of performance while the remaining subjects saw a film identical in all respects except that the student worker achieved a lower level of performance. After seeing the film all subjects worked on the task and their performance was recorded. Finally, a questionnaire was administered to assess task goal levels and satisfaction. This procedure produced a 2 (high performing model vs. low performing model) by 2 (task experience vs. no task experience) design with subjects' goals, task performance and satisfaction serving as dependent variables.

### Subjects

Subjects were 174 male introductory psychology students at Purdue University who participated in the study as partial fulfillment of a course requirement.

### Task

Subjects worked on a card sorting task which had been previously used in the goal setting studies of Pritchard and Curtis (1973) and White, Mitchell and Bell (1977). The task requires subjects to sort cards with specific patterns of punched holes onto vertical spikes on a sorting board. Printed across the top of each card is information about the sex (male, female), age (20 years or under, 21-22 years, 23 years or older) and state residency (resident, nonresident) of an individual. This information is also represented on each card by a set of three punched holes. Thus, on each card there is one of 12 configurations of holes corresponding to one of the 12 combinations of sex, age and residency information. Subjects are also given a sorting board which has 12 sets of three metal spikes, corresponding to the 12 configurations of holes in the cards. They are required to sort each card into one of the 12 categories by placing it on the appropriate set of spikes.

One important variation was introduced to the card sorting task. This variation involved the use of a feedback board designed to provide subjects with continuous performance feedback as they worked on the task. Subjects received their cards in packets of ten. These packets were hung on a "feedback board" in two rows of six packets each and the board was placed directly in front of the subject. When working on the sorting task the subject removed the cards from the board, one packet at a time, beginning at the upper left hand corner and proceeding across the first row and then through the second. Once a packet was removed, a number was revealed on the board which provided the subjects with cumulative, continuous feedback about how many cards he had sorted (i.e., removal of the third packet revealed the number 30, removal of the fifth packet revealed the number 50, etc.). The use of the feedback board was also designed to

facilitate the unobtrusive communication of the model's performance level during the training film. (This will be described later.) When working on the task, subjects were given five minutes to sort as many cards as they could.

This task was chosen for a number of reasons. First, as Pritchard and Curts note, since a card cannot be sorted incorrectly (a card cannot fit on the wrong configuration of spikes) performance varies in terms of quantity only. Second, performance on this task is mainly a function of effort or motivation, producing a closer correspondence between goals or intentions and performance. Third, the task has been used successfully in other goal setting studies.

#### Independent Variables

Task Experience- Subjects in the task experience condition ( $n = 85$ ) were given the opportunity to practice sorting the cards for five minutes before seeing the "training film." During this period, these subjects sorted an average of 46 cards. The initial familiarity with the task of subjects in the no task experience condition ( $n = 89$ ) was restricted to the written set of instructions given to all subjects.

Model Performance- The model performance conditions were manipulated by using videotapes of a trained actor performing the card sorting task for two trials. The general procedure was similar to that used by Weiss and Shaw (1979) to examine model influences on task attitudes. Subjects were told that before working on the task they would see a "training film" which would provide instructional information to supplement the written material they had been given. They were told that the film would show a student working on the task while the voice of a trainer would provide instruction on how to do the task using the behavior of the worker

in the film to provide illustrative examples. They were also told that the worker was a student who had been unobtrusively filmed through a one way mirror while he worked on the task during an earlier phase of the research.

In reality, the training films that subjects saw were two videotapes designed to unobtrusively manipulate the two levels of model performance. In both tapes the "student worker" was the same drama major who was trained to display varying levels of performance and who was paid for his participation. Both tapes showed the model seated at a table with his back to the camera. The model and table were positioned so that both the sorting board and the feedback board were in plain view. The tapes began with the experimenter (off camera throughout) giving the model oral instructions for the card sorting task. Although the model's back was toward the camera, his face could occasionally be seen as he looked to the experimenter while receiving the instructions and later as he reached across the desk in front of him while sorting the cards.

After giving the instructions the experimenter told the model he had five minutes to work on the task and then left the room. Five minutes later the experimenter returned and reported the model's performance to him. The model then worked on the task for another five minutes after which the experimenter returned and again reported the model's performance.

In order to determine appropriate high and low model performance levels, a group of similar subjects were pretested on the task. These subjects were able to sort, on the average approximately 50 cards in a five minute period. As a result, in the videotape of the low achieving model, the student worker sorted 28 cards during the first trial and 40 cards during the second trial. By contrast, in the videotape of the

high achieving model, the student worker first sorted 68 cards and then 80 cards.

In addition to hearing the experimenter report the model's performance, the subjects were also able to observe the numbers on the feedback board. Thus the model (and the viewing subjects) received feedback about the model's performance in two ways: continuous feedback from the feedback board and final feedback from the experimenter. In both the low and high model performance films the model vocally expressed to the experimenter two statements of dissatisfaction after hearing his first trial performance and two statements of satisfaction after hearing his second trial performance so as to communicate to the subjects the importance of the performance level to the model.

In keeping with the training rationale for the film, while the model sorted the cards the trainer's voice pointed out details concerning methods of task performance. This commentary included a description of the feedback board, the arrangements of categories on the sorting board and suggestions for sorting the cards more easily (e.g. "some persons find it easier to first sort the cards into groups of males and females before placing them into their appropriate categories on the sorting board"). The training commentary was identical for both films.

#### Dependent Measures

Each subject's performance was assessed by simply counting the number of cards sorted by the subject after five minutes. Although the feedback board gave subjects a running account of their performance, as in the film the experimenter also reported to the subject the final count at the conclusion of the five minute work period. In the post-task questionnaire, subjects were asked to report the number of cards they

had sorted. The correlation of  $r = .95$  between their actual and perceived performance levels indicates that there was very little ambiguity surrounding their performance.

Also in the post task questionnaire, subjects were asked to indicate their performance goals for the trial they had just completed. Although assessing performance goals after performance obviously creates problems of causal interpretation, the decision to assess goals retrospectively rather than measuring goals prior to performance was based upon two considerations. First, any sequence of collecting goal reports and performance data in the same study will produce problems of causal interpretation and it seemed more reasonable to protect the harder performance data from being contaminated by stated goal levels than vice versa. Second, in the research reported by Locke (1968) retrospective and nonretrospective collections of goal data were both employed and yielded substantially equivalent results. However, in order to shed additional light on the causal sequence involving observation of model performance, goal setting and subject performance, a causal correlational analysis was conducted and is reported with the other results of the study.

Finally, satisfaction with performance was measured by asking each subject to respond to the question "How satisfied were you with your performance on the task?," using a seven point scale ranging from "very dissatisfied" to "very satisfied." Subjects were also asked to respond to the question "To what extent did you enjoy working on the card sorting task?" using a seven point scale that ranged from "did not enjoy the task at all" to "enjoyed the task very much." It should be noted that the correlation of  $r = .08$  between the two measures suggests that the subjects were distinguishing between their satisfaction with the task and their satisfaction with their performance on the task.

### Procedure

Each subject was seated in a small room containing a table, videomonitor, and a headset with a microphone for communicating with the experimenter. On the table was a sorting board, a feedback board (with card packets) and a set of written instructions for the task. Subjects were advised by the experimenter that the study involved an evaluation of different training methods and different modes of presenting instructional material. As part of the training method they were going to see a "training film" on the monitor in front of them. All subjects were then given an opportunity to read the brief description of the task. Subjects in the task experience condition ( $n = 85$ ) were told that before seeing the training film they would be given the opportunity to familiarize themselves with the task by practicing the task for five minutes. At the end of this period the experimenter entered the subject's room, counted the number of cards sorted and reported the performance to the subject. At this point, (without the practice period for subjects in the no experience condition,  $n = 89$ ) all subjects were shown the "training film." Approximately half of the subjects ( $n = 89$ ) were shown the film depicting the high performing model and half ( $n = 85$ ) were shown the film with the low performing model. After seeing the "training film" subjects were then instructed to work on the task for a five minute period. At the end of the period the experimenter entered the subject's room recorded and announced the subject's performance and distributed the post-task questionnaire. In keeping with the training methods focus of the study, this questionnaire was ostensibly designed to assess subjects' reactions to the training film and the task. As such it contained numerous items asking about the clarity of the video and audio portions of the film, the instructional material presented in the film, whether the subjects

thought the film was an effective training device, etc. Embedded in these "training evaluation" questions were the items measuring the subject's performance goals and satisfaction. Additional items were included to assess the effectiveness of the manipulations. After completing the post-task questionnaire, subjects were thoroughly debriefed and dismissed.

## Results

### Manipulation checks

Judging from subjects' responses to the post-task questionnaire, it appears that the experimental manipulations were very effective. With few exceptions, subjects were able to recall the exact number of cards sorted by the model. The correlation between their reports and the model's actual performance was  $r = .99$ . In addition, subjects in the high model performance condition perceived the model as exerting significantly more effort on both the first trial (respective means of 4.90 and 2.93 on a 7 point scale,  $p < .001$ ) and second trial (means of 6.34 and 5.49,  $p < .001$ ). Although only 23% of the subjects believed that the model had a goal on the first trial, a full 82% believed that he had a goal on the second trial. Reports of these goals indicate that they were significantly higher for subjects in the high model performance condition ( $\bar{X} = 75.2$ ) than for subjects in the low model performance condition ( $\bar{X} = 35.2$ ) (difference significant at  $p < .001$ ). As desired, no differences between task experience conditions nor interactions between model and experience conditions were found for accuracy of recall of model performance, perceptions of model effort or beliefs about the model's goals. Finally, those subjects who practiced the task were able to recall their performance during this time period very accurately, as evidenced by the high correlation between their actual and reported performance ( $r = .98$ ).

### Goals

Hypothesis 1a stated that subjects viewing a high performance model would set significantly higher performance goals than would subjects viewing a low performance model. Hypothesis 1b further stated that this effect would be stronger among inexperienced than experienced subjects.

Results relevant to these hypotheses are presented in Tables 1 and 2. As hypothesized model performance level had a significant ( $F = 13.7$   $p < .001$ ) effect on subjects' goals, with subjects who observed the high performance model setting higher goals ( $\bar{X} = 55.4$ ) for themselves than did subjects who viewed the low performance model ( $\bar{X} = 46.4$ ). In addition and not unexpectedly, subjects with task experience set significantly higher goals ( $\bar{X} = 55.1$ ) than did subjects without task experience ( $\bar{X} = 46.8$ ).

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Insert Tables 1 & 2 about here  
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An examination of Tables 1 and 2 suggests that the simple main effect for model performance may be a less than complete description of the data. First, a marginally significant interaction between model performance and task condition was found ( $F = 3.30$   $p < .08$ ). The pattern of cell means (Table 2) indicates that model performance had a more pronounced effect among subjects without task experience than among subjects with task experience. To further explore this effect separate point biserial correlations between model performance condition and subjects' goals were computed for subjects with and without task experience. Among subjects without task experience, model performance correlated  $r = .42$  ( $p < .001$ ) with subjects' goals. For subjects with task experience, this same correlation was only  $r = .14$  (n.s.). These correlations were significantly different at the  $p < .05$  level.

In sum, model performance had a significant effect on the task goals of observers with evidence to suggest that the effect was more pronounced among subjects without task experience.

### Performance

Hypotheses 2a and b stated that the performance of the subjects who observed a high performance model would be higher than the performance of subjects who observed a low performance model (2a) and that this effect would be more pronounced among subjects without prior task experience (2b).

Before turning to the relevant results, it should be noted that as expected from the extensive body of goal setting literature, the correlation between subjects' stated goals and performance was positive and strong ( $r = .57$   $p < .001$ ) across all conditions. Independent of how they were formed, goals correlated substantially with performance.

Tables 3 and 4 describe the effects of model performance and task experience on subjects' own performance. Not surprisingly, prior task experience had a significant positive effect on the subjects' performance. More central to the issues of this paper are the effects of the model performance. Here the results basically follow the pattern already described for observer goals. In this case, however, a significant interaction was found while a main effect for model performance was not obtained. An inspection of the cell means (Table 4) indicates that, as hypothesized, the level of model performance had a significant positive effect on subjects' own performance only for subjects without task experience.

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Insert Tables 3 & 4 about here  
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As with goals, to further examine the interaction of model performance and prior experience on observer performance, separate point biserial correlations between model performance condition and subject performance were computed for subjects with and without prior task experience. For subjects without task experience, this correlation was significant and positive ( $r = .22$   $p < .05$ ). For subjects with prior experience this correlation was negative although not significant ( $r = -.15$ , n.s.). These correlations are significantly different ( $p < .05$ ) from each other.

The pattern of results presented so far supports the hypothesized influence of a model's achievement level on an observers' task goals and performance. However, this effect seems to hold only for subjects who had no task experience before observing the model.

### Causal Analysis

Conceptually we have hypothesized a specific causal sequence for the modeling effects demonstrated among subjects in the no task experience condition. In this sequence, derived from and compatible with the body of goal setting research, model achievement influenced observer performance level through the model's more immediate effect on goals and intentions, (see figure 1). However, assessing subjects' goals retrospectively obviously raises an alternative causal interpretation. One might argue that model achievement had a direct influence on subjects' performance without the mediating mechanism of goal setting. So, for example, the obviously higher effort and arousal of the model in the high performance film may have increased the arousal of the subject, resulting in higher performance. Subjects may then have reported goals compatible with their performance levels, producing a relationship between model achievement and subjects' goals that was primarily artifactual (figure 1).

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Insert Figure 1 about here  
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To investigate the alternative models a causal correlational analysis was performed for subjects in the no experience condition. The method used was one suggested by Simon (1954) and Blalock (1964) for examining the adequacy of prespecified three variable causal chains. The adequacy of a model is assessed by examining the correlation between the first and third variables in the sequence with the hypothesized mediating variable partialled out. For adequate models this partial correlation should reduce to zero.

Results of this partial correlational analysis are presented in figure 1. Examination of the patterns of zero order and partial correlations provides substantial support for the mediating influence of goals on the model performance - subject performance relationship, while providing no support for the alternative artifactual model. The artifactual model would predict that the correlation between model achievement condition and subjects' goals would have been substantially reduced when subjects' performance levels were partialled. However, as can be seen in figure 1, the partial correlation is virtually identical to the zero order correlation.

On the other hand, the conceptual model would predict that the correlation between model and subjects' performance levels would have reduced to zero when the hypothesized mediating mechanism of subjects' goals were partialled. This, in fact, did occur. Partialing goal level reduced the zero order correlation from  $r = .22$  ( $p < .05$ ) to a non significant  $r = -.05$ .

#### Satisfaction

Hypotheses 3a and b stated that subjects' satisfaction with their performance would be a function of the discrepancy between their own performance and the model's performance (3a) and that this relationship would be stronger for subjects without prior experience on the task (3b). Results support hypothesis 3a but not 3b.

Across all conditions, absolute level of performance correlated with subjects' performance satisfaction ( $r = .24$   $p < .001$ ). However, this correlation was significantly smaller ( $t = 3.55$ ,  $p < .05$ ) than the correlation between satisfaction and the discrepancy between one own and the model's performance ( $r = -.42$   $p < .001$ ) indicating that the more important

influence on subjects' self evaluations was how their performance levels compared to the standards provided by the model.

Of particular interest, and in contrast to the findings on goals and performance, this correlation was not influenced by task experience. Subjects in both the prior experience and no prior experience conditions used the model's achievement as a standard of personal evaluation ( $r = -.44$  and  $r = -.40$  respectively, both  $p < .001$ ). In addition, for subjects in the prior task experience condition, the correlation between their performance improvement and their performance satisfaction was ( $r = .30$  ( $p < .01$ )). It seems that these subjects were using two standards of evaluation, their own and the model's achievements.

These results clearly indicate that the model provided a standard which the subjects used to evaluate their own performance levels. Further, although subjects with prior experience on the task were less likely to use the model to set their own goals, they still used the model's performance as an evaluative standard for judging the adequacy of their own achievement.

Of some parenthetical interest is the finding that the model had a much smaller, although still significant, effect on task satisfaction apart from performance satisfaction. Across all conditions the correlation between the discrepancy between self and model performance and task satisfaction was  $r = -.18$   $p < .01$ . This correlation was basically unaffected by task familiarity. The smaller effect for models on task as opposed to performance satisfaction again attests to the independence of these constructs.

#### Discussion

The substantial causal influence of goals on achievement and satisfaction has been repeatedly demonstrated in both laboratory and field settings. Yet

our knowledge of the factors influencing the goals individuals naturally set when approaching tasks is nowhere near our understanding of the importance of these goals. This study demonstrated that the observed achievement of other workers can serve as a standard by which individuals set their goals and evaluate their performance, thereby significantly influencing their own levels of achievement. It also showed this modeling effect to be significantly moderated by task experience. Inexperienced subjects who viewed a high performing model set higher performance goals and achieved greater levels of performance than inexperienced subjects who observed a lower performing model. However, the goals and performance levels of subjects who were familiar with the task were less influenced by the model. Yet, subjects in all conditions, regardless of task familiarity or model achievement level used the model as a standard of self evaluation. Model achievement influenced observers' performance satisfaction even under conditions where it had no influence on goals or performance.

The findings of this study, by providing additional information about the way individuals develop their own task goals and intentions, help to extend Locke's original "foundations of a theory of task motivation." Beyond that, they are of obvious relevance to an understanding of the processess of self controlled motivation at work. Obviously, these laboratory results need to be replicated in the field before conclusions about the effects of social influences on work goals can be drawn with confidence. Yet goal setting is probably the research area which has best demonstrated the complementary nature of laboratory and field studies (Latham and Locke, 1979; Latham and Yukl, 1975). In addition, the results of this study are compatible with research demonstrating modeling influences on other organizationally relevant behaviors, perceptions and attitudes (Latham and Saari, 1979; O'Reilly and Caldwell, 1979; Weiss, 1977, 1978; Weiss

and Shaw, 1979; White and Mitchell, 1978). The consistent replication of Locke's laboratory research in field settings and increased recognition of the importance of social influences on organizational behaviors supports the probable influence of models on goals, performance and satisfaction in field settings as well.

The moderating effect of task familiarity has additional organizational implications by suggesting that social influences on the development of goals and performance standards may be most pronounced for new workers or individuals approaching an unfamiliar task. Weiss (1977) has argued that new employees enter what is to them a fairly undifferentiated psychological environment and are actively seeking information about appropriate behaviors, attitudes etc. Similarly, Katz (1980) has characterized the initial employment period as a time of uncertainty reduction. Under such conditions other workers can be an important source of information and individuals are likely to try to reduce uncertainty and determine appropriate behaviors, goal levels in this case, by attending to the behavior of co-workers. Crawford (1974) has shown that under conditions of response uncertainty individuals seek information from others. In this regard, Katz (1980) has suggested that new workers turn to the social environment for guidance. The results of this study certainly support the arguments about workers using social information under conditions of uncertainty. The results also indicate that as uncertainty is reduced through personal task experience social influences will diminish. However, the inability of task familiarity to moderate the performance satisfaction results suggests that social influences are not just an issue for new workers.

As described in the results, the argument that the model influenced the goals and subsequent performance of inexperienced subjects must be

qualified by the retrospective reporting of subjects' goals. In spite of this, for a number of reasons, the hypothesized causal sequence of the model influencing performance through the mediating process of goal setting seems to be the most acceptable explanation of events. First, this causal sequence is clearly compatible with other research on the mediating role of intentions and the direct causal effect of goals on performance. Second, it is strongly supported by the causal correlational analyses conducted to examine alternative causal models. The partial correlational analysis supported the hypothesized causal sequence but did not support the alternative artifactual sequence of the model directly influencing observer performance with observers then reporting their goals to conform to their achievement levels. Nor does the partial correlational analysis support a causal sequence where the model influenced both observer goals and performance directly and independently. Thus, based upon both theory and data, it seems logical to conclude that model influences on observers' performance levels were mediated by the model's influences on the observers' performance intentions.

While modeling effects on observer goal setting, performance and satisfaction have been demonstrated, continued research should be done on why this occurs. Lewin et al (1944) theorized that goal choice is a function of the probabilities and incentive values of different aspiration levels. Similarly Locke et al. (1970) have argued that the anticipated or expected satisfaction of achieving various goal levels influence goal choice. What role do models play within these frameworks? Models may have their effect by increasing the observer's expectations or perceived probabilities of successfully reaching more difficult goal levels. They may also have their effect by increasing incentive values or anticipated satisfaction associated with varying levels of achievement. Possibly both

mechanisms are operating as the achievement levels of models influence the performance intentions of observers.

Research which helps to delineate the way models influence goal choices will increase our understanding of both the role of goals and intentions in task motivation and general observational learning processes. That research should also help to increase our knowledge of self control as it relates to performance in organizations.

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TABLE 1

Effects of Model Performance and Task Experience  
on Subjects' Performance Goals

Source	df	MS	F
Model Performance	1	3350.39	13.70**
Task Experience	1	2777.07	11.36**
Model x Experience	1	806.23	3.30*
Residual	165	244.52	

\*\*  $p < .001$

\*  $p < .10$

TABLE 2

Cell Means for Subjects' Performance Goals

	No Task Experience	Task Experience	Total
Low Performance Model	40.1	52.7	46.4
High Performance Model	53.5	57.3	55.4
Total	46.8	55.1	50.9

TABLE 3

Effects of Model Performance and Task Experience  
on Subjects' Performance

Source	df	MS	F
Model Performance	1	15.22	.103
Task Experience	1	1292.94	8.81**
Model x Experience	1	825.47	5.62*
Residual	170	146.82	

\*\*  $p < .01$

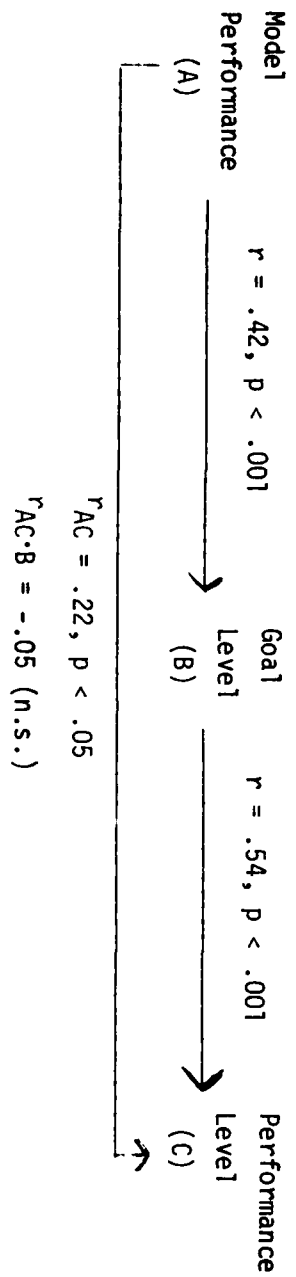
\*  $p < .05$

TABLE 4

## Cell Means for Subjects' Performance

	No Task Experience	Task Experience	Total
Low Performance Model	53.8	63.7	58.6
High Performance Model	58.7	59.9	59.3
Total	56.3	61.8	59.0

### Conceptual Model



### Artifactual Model

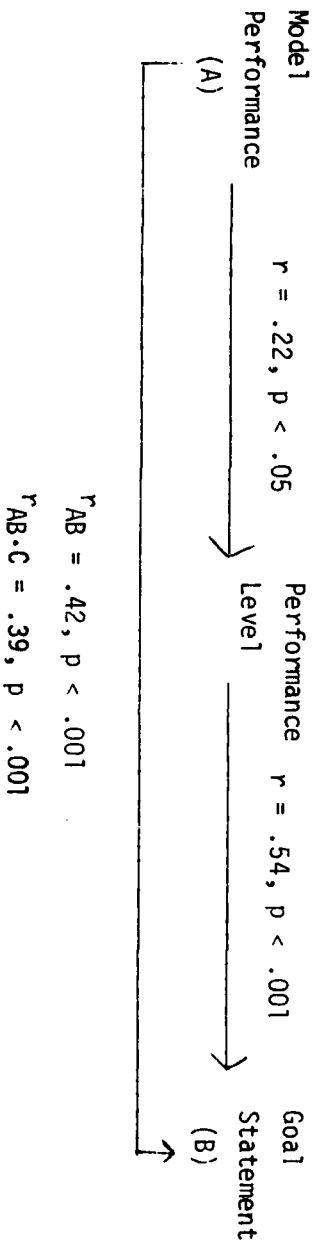


Figure 1 - Partial Correlational Analyses Examining the Alternative Causal Models

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